

REMARKS

Applicant respectfully requests that the above-identified application be reexamined.

Claims 1-16 are pending in this application. The Office Action mailed October 3, 2007 (hereinafter "Office Action"), rejected Claims 1, 6-10, and 14-16 under 35 U.S.C. § 103(a) as being unpatentable in view of the teachings of U.S. Patent No. 6,925,631, issued to Golden (hereinafter "Golden"). Claims 2-5 and 11-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable in view of the teachings of Golden taken in view of the teachings of U.S. Patent No. 7,089,533, issued to Vosburgh (hereinafter "Vosburgh"). Applicants respectfully disagree for the reasons set forth below.

Pursuant to 37 C.F.R. § 1.111 and for the reasons set forth below, applicant respectfully requests reconsideration and allowance of the pending claims. Prior to discussing in detail why applicant believes that all the claims in this application are allowable, a brief description of the disclosed subject matter and brief descriptions of the teachings of the cited and applied references are provided. The following descriptions of the disclosed subject matter and the cited and applied references are not provided to define the scope or interpretation of any of the claims of this application. Instead, these descriptions are provided solely to assist the United States Patent and Trademark Office in recognizing the differences between the pending claims and the cited references, and should not be construed as limiting on the disclosed subject matter.

Disclosed Subject Matter

A system, method, and computer-accessible medium to facilitate parsing content from an XML document are provided. The system and method provide a parser and an agent to process XML events for XML elements from an event-based XML reader on behalf of the parser in accordance with a parsing map. In accordance with one aspect of the present invention, the parser comprises the parsing map and custom parsing code. The parsing map defines the XML elements of interest and further identifies the custom parsing code that corresponds to the defined

XML elements. The custom parsing code contains the logic used to parse the content of the defined XML element. Parsing is based on a user-defined parsing function.

The agent comprises a communications channel through which the agent receives the parsing map, and further through which the agent returns to the parser the content of the XML elements defined in the parsing map. The agent further comprises a state machine that is automatically generated in accordance with the parsing map. The state machine is responsible for handling the events related to the XML elements defined in the parsing map, including verifying the structure and consistency of the elements, extracting the elements' attributes, if any, and collecting the elements' contents for return to the parser via the communications channel. The automatically generated state machine advantageously avoids the need for the user to construct their own state machine.

Summary of Golden (U.S. Patent No. 6,925,631)

Golden is purportedly directed towards a method performed by a computer system for processing an extensible markup language input stream using discrete software components mapped to tags contained in the input stream, comprising: parsing the input stream; and as a tag is parsed, invoking the software component mapped to it. Golden is also purportedly directed towards a computer system, comprising: (i) a processing unit and storage for processing programs; (ii) bindings representing a mapping between tags and discrete software components; (iii) a software engine comprising: a reader component that reads an extensible markup language input stream containing at least one tag; (iv) a parser component that parses the input stream; and (v) an execution component that, as a tag is parsed, invokes the software component mapped to the tag.

While Golden describes a method for processing an extensible markup language input stream using discrete software components mapped to tags contained in the input stream, Golden fails to teach, disclose, or suggest a parser and an agent that process XML events for XML elements from an event-based XML reader on behalf of the parser in accordance with a parsing

map, as well as custom parsing code that contains the logic used to parse the content of the defined XML element.

Summary of Vosburgh (U.S. Patent No. 7,089,533)

Vosburgh is purportedly directed towards mapping operations between a markup language document and an object model executed in response to a request from a client application. The mapping operations include read, write, update, or delete operations. Mapping meta-data is used to map the markup language document to the object model. The mapping meta-data contains information as to how the markup language element maps to an attribute and/or a relationship of the object model.

Rejection of Claims 1, 6-10, and 14-16 Under 35 U.S.C. § 103(a)

As indicated above, Claims 1, 6-10, and 14-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Golden.

Remarks accompanying the rejection of Claim 1 in the Office Action State:

As per independent claim 1, Golden discloses:

A method for facilitating parsing XML data, the method comprising:

creating a parsing function {See Golden, C4:L6-17, wherein this reads over "the invocation of software components mapped to the tags is performed during the parsing process"};

mapping an XML element to the parsing function {See Golden, C4:L26-38, wherein this reads over "[f]or tags which are mapped, in the disclosed embodiment, the mapping is a single-valued function"};

exposing the mapping to an agent via a communication channel {See Golden, C5:L2-10, wherein this reads over "the discrete software components comprises a method, which is invoked as the start-tag of a tag, is parsed (called 'init method') and a further method, which is invoked as the end-tag of a tag, is parsed"};

receiving an event for the element from an event-based reader of XML data containing the element {See Golden, C4:L10-16, wherein this reads over "[t]he preferred parser (an event-driven Application Programming Interface (API) is the 'simple API for XML' (SAX) parser"; and ?C5:L11-22, wherein this reads over "the 'behavior' that is induced by a certain tag is not fixed, but can be changed depending on the context in which the input stream is parsed, or any other internal or external conditions"};

pre-parsing the content of the element using a state machine automatically generated by the agent in accordance with the exposed mapping {See Golden, C4:L35-38, wherein this reads over "there is a one-ton-one [*sic*] mapping between all mapped tags and software components. In other words, to each mapped tag corresponds exactly one software component"}; and

sending the pre-parsed content of the element via the communication channel to the parsing function {See Golden, C5:L44-62, wherein this reads over "[a]s a tag of the input stream is parsed, the software component mapped to it is invoked" and "[a]nother possible source for XML input is a database, since data can advantageously be stored in databases in the form of XML documents or document fragments. Such an XML database output forms an input for the disclosed embodiments, and is a tag is parse [*sic*], a software components [*sic*] mapped to it is invoked"}.

Claim 1, as amended, reads as follows:

1. A method for facilitating parsing XML data, the method comprising:
creating a **user-defined** parsing function;
mapping an XML element to the **user-defined** parsing function;
exposing the mapping to an agent via a communication channel;
receiving an event for the element from an event-based reader of XML data containing the element;
pre-parsing the content of the element using a state machine automatically generated by the agent in accordance with the exposed mapping; and
sending the pre-parsed content of the element via the communication channel to the **user-defined** parsing function. (Emphasis added.)

Applicant respectfully disagrees with the Office Action that Claim 1, as amended, is unpatentable over Golden. Golden does not disclose, teach, or suggest the "creating a **user-defined** parsing function" clause of Claim 1. (Emphasis added.) Col. 4, lines 6-17 of Golden, referenced by the Office Action, state only that "the invocation of software components mapped to the tags is performed during the parsing process." While this statement generally describes the parsing method proposed by Golden, it clearly fails to disclose, teach or remotely suggest creating a user-defined parsing function, as recited in amended Claim 1.

Since Golden fails to disclose, teach, or suggest the creation of a user-defined parsing function, Golden also fails to disclose, teach, or suggest the "mapping an XML element to the

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user-defined parsing function" recitation of Claim 1. (Emphasis added.) No user-defined parsing function is described in the referenced text. Golden, in Col. 4, lines 26-38 states only that "the mapping is a single-valued function," failing to provide any description of this function.

Further, Golden fails to disclose, teach, or suggest the "exposing the mapping to an agent via a communication channel" recitation of Claim 1. Col. 5, lines 2-10 and the text referenced in the Office Action cited in support of Golden's alleged disclosure of this clause fail to teach or even remotely suggest "an agent" or a "communication channel." Instead, the referenced text simply describes a method whereby the invocation of software components mapped to the tags is performed during the parsing process. (See also Col. 4, lines 7-8.)

Applicant further submits that, contrary to the Office Action assertion, Golden fails to disclose, teach, or suggest the "pre-parsing the content of the element using a state machine automatically generated by the agent in accordance with the exposed mapping" recitation of Claim 1. Col. 4, lines 35-38, quoted by the Office Action cited in support of Golden's alleged disclosure of this recitation, state nothing more than the fact that there is a "one-to-one mapping between all mapped tags and software components." While this may apply to the way mapping is generally carried out in a parser, it does not disclose or remotely suggest "a state machine automatically generated by the agent in accordance with the exposed mapping."

Golden also fails to disclose, teach, or suggest the "sending the pre-parsed content of the element via the communication channel to the parsing function" recitation of Claim 1. Col. 4, lines 44-62, referenced by the Office Action in support of Golden's alleged disclosure of this clause, describe a process wherein when "a tag of the input stream is parsed, the software component mapped to it is invoked," and a database as "another possible source for XML input." However, the referenced part of Golden does not contain any description or suggestion of the elements of the above recitation, i.e., the pre-parsed content, the communication channel, and the user-defined parsing function, nor does it describe any process of sending the pre-parsed content.

To better distinguish Claim 1 from Golden, applicant has clarified the "parsing function" recitation of Claim 1 by adding "user-defined" to the parsing function recitation.

Because Golden fails to disclose, teach, or suggest all of the recitations of Claim 1, applicant submits that Claim 1, as amended, is allowable over Golden. Claims 6-8 depend from Claim 1 and are submitted to be allowable for at least the same reasons that Claim 1 is submitted to be allowable.

Remarks accompanying the rejection of Claim 9 in the Office Action State:

As per independent claim 9, Golden discloses:

A system for parsing XML data, the system comprising:

a library of custom parsing functions to parse content of XML elements {see Golden, C16:L25-67, wherein this reads over "[t]he XFB engine 13 processes the XML input document 14 as described in the context of FIGS. 5 and 6, using bindings 12 which define the mapping between the tags in the XML input document 14 and classes"};

a parser having a map that associates custom parsing functions with XML elements {see Golden, C4:L6-17, wherein this reads over "the invocation of software components mapped to the tags is performed during the parsing process"};

a communication channel;

an agent that obtains the content of an XML element on behalf of the parser in accordance with the map {see Golden, C5:L2-10, wherein this reads over "the discrete software components comprises a method, which is invoked as the start-tag of a tag, is parsed (called 'init method') and a further method, which is invoked as the end-tag of a tag, is parsed"}, wherein the map is accessed via the communication channel, and further where the agent passes the content to the associated custom parsing function via the communication channel {See Golden, C5:L44-62, wherein this reads over "[a]s a tag of the input stream is parsed, the software component mapped to it is invoked" and "[a]nother possible source for XML input is a database, since data can advantageously be stored in databases in the form of XML documents or document fragments. Such an XML database output forms an input for the disclosed embodiments, and is a tag is parse [sic], a software components [sic] mapped to it is invoked"}.

Claim 9, as amended, reads as follows:

9. A system for parsing XML data, the system comprising:
a library of custom **user-defined** parsing functions to parse content of XML elements;

a parser having a map that associates custom **user-defined** parsing functions with XML elements;
a communication channel;
an agent that obtains the content of an XML element on behalf of the parser in accordance with the map, wherein the map is accessed via the communication channel, and further where the agent passes the content to the associated custom **user-defined** parsing function via the communication channel. (Emphasis added.)

Applicant respectfully disagrees with the Office Action that Claim 9, as amended, is unpatentable over Golden. Golden does not disclose, teach, or suggest the "library of custom **user-defined** parsing functions to parse content of XML elements" recitation of Claim 9. (Emphasis added.) While Golden, in the text referenced by the Office Action in regard to this portion of Claim 1 prior to this amendment includes the statement "engine 13 processes the XML input document 14 as described in the context of FIGS. 5 and 6, using bindings 12 which define the mapping between the tags in the XML input document 14 and classes," this statement does not disclose, teach, or remotely suggest "a library of custom user-defined parsing functions." Golden does not suggest parsing functions are customizable and user-defined. The "bindings" of Golden (used to define the mapping between the tags and classes) are not functionally equivalent to the "custom user-defined parsing functions" of Claim 1 (used to parse content).

Golden also fails to disclose, teach, or suggest the "parser having a map that associates custom **user-defined** parsing functions with XML elements" recitation of Claim 9. (Emphasis added.) Col. 4, lines 6-17, referenced by the Office Action with respect to this clause of Claim 9 ("the invocation of software components mapped to the tags is performed during the parsing process"), fails to disclose or suggest "custom user-defined parsing functions."

With respect to the "communication channel" recitation of Claim 9, applicant notes that 37 C.F.R. § 1.104(c)(2), under the "Rejection of Claims" heading, states that "The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified." Here, the Office Action has failed to properly designate a portion of Golden that discloses, teaches, or suggests the "communication channel" recitation of Claim 9.

Further, Golden fails to disclose, teach, or suggest the "agent that obtains the content of an XML element on behalf of the parser in accordance with the map, wherein the map is accessed via the communication channel, and further where the agent passes the content to the associated custom user-defined parsing function via the communication channel" recitation of Claim 9. Col. 4, lines 44-62, referenced by the Office Action in support of Golden's alleged disclosure of this clause, describe a process wherein when "a tag of the input stream is parsed, the software component mapped to it is invoked" and describe a database as "another possible source for XML input." However, this description does not teach or suggest of the elements of the above recited portion of Claim 9, namely, the agent, the content, the communication channel, and the user-defined parsing function, nor does this portion of Golden describe any process wherein an agent passes the content to a custom user-defined parsing function.

To better distinguish Claim 9 from Golden, applicant has amended the "custom parsing function" recitation of Claim 9 by adding "user-defined" to the custom parsing function recitation.

Because Golden fails to disclose, teach, or suggests all of the recitations of Claim 9, applicant submits that Claim 9, as amended, is allowable in view of Golden. Claims 10, and 14-16 depend from Claim 9 and are submitted to be allowable for at least the same reasons that Claim 9 is submitted to be allowable.

Rejection of Claims 2-5 and 11-13 Under 35 U.S.C. § 103(a)

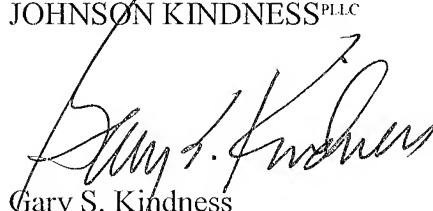
As indicated above, Claims 2-5 and 11-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable in view of Golden taken in view of Vosburgh. As discussed above, Claims 1 and 9 are submitted to be allowable over Golden. Claims 2-5 depend from Claim 1, and thus are submitted to be allowable over Golden, taken alone or in combination with Vosburgh since Vosburgh does not make up for the deficiencies of Golden as discussed above with respect to Claim 1. For the same reason, Claims 11-13, which depend from Claim 9, are submitted to be allowable over Golden, taken alone or in combination with Vosburgh.

CONCLUSION

In view of the foregoing amendments and remarks, applicant respectfully submits that all of the claims pending in this application are allowable. Early and favorable action allowing these claims and passing this application to issue is respectfully solicited. If any questions remain, the Examiner is invited to contact applicant's attorney at the number set forth below.

Respectfully submitted,

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